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DRY LAND AGRICULTURE

BUREAU OF PLANT INDUSTRY

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REPORT FOR THE MONTH OF FEBRUARY 1941.

HUNTLEY:

February was the third month in succession with monthly precipitation considerably below the average and average mean temperatures considerably above normal. As in January, precipitation was limited to a few very light snows and traces of rain, and at no time was enough moisture received to benefit crops or rangelands. In fact, the precipitation of the last week together with the extreme temperature variations, appears to have contributed to making the soils fluffy and putting them in condition to blow. Heretofore the surface soil has been hard, dry and deeply cracked, but now the ground is a dry powder to a depth of an inch or more on some fields.

Inspection of the plots at the close of the month indicates that winter wheat on fallow has come through the winter in fairly good condition. On some plots the rows are clearly defined by green growth. Wheat on stubble and cornland is doubtful, and winter rye on disked stubble is also questionable.

A recent trip through some of the adjoining range country showed cattle which had wintered on grass to be in very good condition, despite the fact that stockmen have reported the grass to be too dry and brittle to return maximum benefits. Crested wheatgrass used for winter pasture has given varying results, according to reports. The older stands with coarser growth appear to be less palatable than the younger plantings. Most of the older plantings were established during the drought years and stands were thinner resulting in large individual grass clumps. The younger stands planted in wetter seasons have a thicker and more uniform stand giving a finer stem growth. Crested wheatgrass seeding in the Devils Basin Grazing District has been carried on all winter, according to the manager, Mr. C. J. Spalding.

Maximum temperature, 65°; minimum, -7°; mean temperature, 28°; average, 23°; precipitation, 0.13 inch; average, 0.46 inch.

MOCCASIN:

The month of February in this area was unusually favorable for livestock. The mean temperature for the month was 26.5° compared to the station average mean of 22°. Eight days recorded maximums of 50° or more and four of these were above 60°. During the last week there were four minimums below zero. The warmest February ever recorded at this station was in 1926 with a mean of 33°.

Precipitation was recorded on 8 days, the highest being 0.18 inch. The total precipitation of 0.23 inch was 0.31 inch below the average for February. The total for January and February is only 0.27 inch and at present we lack 0.88 inch of being normal for 1941.

The average daily wind velocity for the month was 6.1 miles per hour with five days having velocities of 10 miles per hour or better. On the 24th the daily velocity was 13.6 miles per hour with more soil blowing in this area than for a number of months.

The cattle in the Winter Feeding and Pasture Experiment were weighed on the 11th and the 32 head of Hereford steer calves have gained better than 3300 pounds since they went on test November 19, 1940. Much interest is being shown in this experiment and many farmers and livestock men have visited the station from time to time to check the progress of these steers.

Maximum temperature, 66°; minimum, -7°; precipitation, 0.23 inch.

SHERIDAN:

The month was warm throughout, about 7° above the station average, and with no temperatures of zero or below. Wind movement and precipitation were low. There was one light snow on the 13th, another very light one on the 20th, and a trace on 7 other days.

No field work was possible at any time during the month.

Maximum temperature, 61°; minimum, 3°; precipitation, 0.29 inch.

DICKINSON:

Mild temperatures for February prevailed during the first half and again at the close of the month. The mean temperature of 16.1° was 3° above normal and 2° above February 1940. During the last half of the month night temperatures usually were below zero. The minimum for the month of -26° was near midnight on the 26th, after which the temperature rose rapidly to 53° on the 28th, a rise of 79° in 38 hours. The ground was bare of snow during the first half of the month and again at the close. Precipitation amounted to only 0.27 inch.

Livestock continued in excellent condition. Breeding stock of cattle, sheep, and hogs are selling well at the community sales in the district, but prices of horses are low as a result of the trend to buy tractors and get rid of horses.

Maximum temperature, 53°; minimum, -26°; precipitation, 0.27 inch.

MANDAN:

Cooperative Grazing Experiment In the spring of 1936 a modification was made in the grazing experiment. Two-year-old steers had been used for grazing the pastures for 20 years previous to that time. At the beginning of 1936 a change was made to yearling steers. The same number of yearlings was used in each pasture as 2-year-olds, so that the acres per head continued the same. During the 5 years the yearlings have been pastured, it is evident that their consumption of grass has been much less than for 2-year-olds. The 30-acre pasture, grazed at the rate of one steer to 3 acres has carried the yearlings for the full season. This never happened with 2-year-olds without a loss in weight. The gains of the steers in the small pasture have been nearly equal to those in the larger pastures. The average gain of the yearlings for the 5 years has been less than for 2-year-olds.

From the results of the past five years with yearlings, it appears that the number per pasture should be increased by 30 to 40 percent to equal the consumption of feed of 2-year-olds. In the spring of 1941, it is planned to either increase the number of yearlings or return to the use of 2-year-olds.

The month of February was mild throughout. The mean temperature was about 15° F., or about 5° above normal. The mean of 15° was exceeded in 1940 (1°), 1934 (9°), 1935 (13°), and during several other years.

The maximum temperature for the month ranged from -2° on the 18th to 42° on the 15th. The minimum ranged from -21° on the 26th (the lowest of the winter) to 22° on the 4th.

The snowfall for the month was 3 inches, and the precipitation 0.22 inch. So far this year the precipitation is about half of normal.

BELLE FOURCHE:

The weather during February was generally clear and unusually mild and dry. The mean temperature for the month was 25°, which is 4° above normal. The coldest weather occurred February 18 to 26, when the daily minimum temperatures ranged from -1° to 11°. A few light flurries of snow were received, but measurable amounts of precipitation occurred on only two days, and the 0.10 inch recorded during the month was approximately 29 percent of the average for February. The total precipitation for January and February is 0.17 inch, which is the lowest of record for the 2-month period. Wind movement was comparatively low, and there were not more than two days in which the average velocity exceeded 10 miles per hour. Considerable soil blowing took place on smooth fields February 16, and some movement occurred during the forenoon of February 17. The soil generally is in a rather dangerous blow condition, but fortunately there have been no extremely high winds.

The continued dry weather has been unfavorable for winter grain, but winter wheat and winter rye still appear to be in good condition, particularly on summer fallowed land.

The soil became sufficiently dry and frost-free to permit sowing crested wheatgrass and bromegrass on 10 plots. Fall seeding was prevented by an unprecedented early freeze which stopped field work. Fallow, green manure, and corn stubble plots were corrugated to prevent soil blowing late in the month, when the ground had thawed sufficiently to permit working.

Maximum temperature, 59°; minimum, -1°; precipitation, 0.10 inch.

ARCHER:

Mild weather prevailed throughout February. Considerable foggy weather occurred during the period February 17-25 causing ice to form on wires. This ice caused rather extensive damage to telephone lines in this section. The total precipitation furing February was 0.20 inch. This occurred during the foggy period. The wind velocity was below normal.

Winter cereals have made new growth, and the early grasses have sent up green tufts. Livestock are in good condition generally, and feed is sufficient for normal conditions.

In addition to regular routine, station activities consisted of cleaning yards and manuring some of the rotation plots. The repair of machinery is in progress.

Maximum temperature, 61°; minimum, 6°; precipitation, 0.20 inch.

NORTH PLATTE:

The weather for February was very mild. The mean temperature for the month was above normal, and no sub-zero readings were recorded. The precipitation was 0.17 inch below normal, and the total snowfall was 4.6 inches. The total precipitation recorded since October 1 is 3.35 inches, or 0.36 inch above normal. Above normal precipitation was recorded during October and December.

The only field work which has been done so far this spring was mowing corn stalks at the main station. The survival of winter wheat on the plots is still a question. There are few plants that do not have some life. The leaves of most of the plants were frozen off by the early November freeze. These plants are mostly alive, but it is a question how many will recover. In the varietal plots, Nebred and Cheyenne have survived the best of all the varieties tested.

Maximum temperature, 60°; minimum, 7°; precipitation, 0.36 inch.

AKRON:

February passed as a very pleasant winter month. There were more foggy nights. Many say they cannot before recall winter fogs in this section. The month produced practically no precipitation, thus carrying-on a very dry winter. The winter wheat condition is consequentially very problematical. One thing in favor of its withstanding adverse winter conditions is that it became well established last fall. Winter barley has by this time rather definitely been killed.

Preparing reports, spring seeding lists, painting stakes, preparing plot markers and attaching them to stakes, and threshing the sorghum nursery grain was carried-on.

Maximum temperature, 67°; minimum, 12°; precipitation 0.04 inch.

COLBY:

February was a fairly pleasant month. There were no extremes of temperature, and the mean was 1° above the normal. The wind velocity was appreciably below normal. There were only two days when it was very windy. At times there was some dust in the air on these two days. The precipitation was slightly over a third of normal. All of it came in the form of mists and light snows during the last 10 days. Precipitation was recorded on 8 days, for a total of 0.21 inch. The snowfall amounted to 2.6 inches. The snow drifted considerably, but there were no storms. The cloudy, misty, snowy weather was almost continuous between the 19th and 26th.

At times it was foggy. On several mornings trees, fences, etc., were white with hoar frost up to half an inch thick. The snow melted and the frost left the ground on the afternoon of the 28th.

Wheat made some growth during the first three weeks of the month when the weather was mostly clear and warm. The fields greened up enough so that the extent of the winter killing is fairly discernible. The fallow plots will have very poor stands, for the most part. Over this county as a whole, however, the condition of the wheat is very much above average.

Maximum temperature, 52°; minimum, 9°; precipitation, 0.21 inch; snowfall, 2.5 inches. Precipitation, 54-year average, 0.57 inch. Precipitation, 1941 to date, 1.00 inch; 54-year average, 0.85 inch.

HAYS: Report for the month of January 1941.

January was generally mild with no extreme temperatures, the mean for the month being 31.3°. Although there was slight drifting of some of the snow that occurred between January 21 and 25, it was generally calm there being no heavy wind.

The top soil was wet all month and very wet during the last part of the month. The ground was frozen for only a short time. The maximum depth of frost was 3 or 4 inches about the 26th. The frost was practically all out of the ground by the end of the month.

During the early part of the month some drilling of winter wheat was done in several fields where the killing by the October freeze was heavy in Ellis and adjoining counties, especially to the west. It has been reported that some rather large areas were reseeded in Ness, Lane, Scott, and some other counties in that part of the State.

The total precipitation for the month was 1.08 inches, including 4.5 inches of snow.

Maximum temperature, 61°; minimum, 2°; mean, 31.3°.

HAYS:

February was another pleasant month. No extreme temperatures, proctically no wind, and slightly above normal precipitation, considerable of which occurred in the form of snow, the most of which remained where it fell. The ground has been covered with from 1 to 6 inches of snow during the past ten days and at the time this report is being written the snow averages about 4 inches deep. There is no bare soil, even where there was little or no stubble or litter on the fields.

The wheat that survived the October freeze made some growth, perhaps about normal growth for winter months. The wheat that was damaged severely is recovering very slowly, despite the favorable conditions brought about by mild temperatures, moisture, and the protection of a snow cover. Except for occasional fields that suffered 50 to 80 percent loss by killing, plenty of wheat remains to produce a good crop under normal conditions from now until maturity of the crop. In the fields where the wheat has been thinned too much, or in patches, weeds are very apt to become a factor that may prevent a satisfactory yield.

There has been very little frost in the soil. The surface soil, however, has been too wet for tillage work except for a few days during the middle of the month. Plowing of plots for spring small grains was completed February 18.

Maximum temperature, 65°; minimum, 6°; mean, 32.7°; or about half a degree above normal. Precipitation, 0.85 inch including 8 inches of snow.

GARDEN CITY:

Total precipitation for the month amounted to 0.69 inch, which is also the average for the month. The total thus far this year is 2.00 inches, and the normal for the two months is 0.95 inch. There were twelve days during the month when moisture fell, including traces, and eight of these twelve days were consecutive. The greatest single amount was 0.36 inch.

The mean temperature for the month was about average, but the average maximum was 3 degrees higher and the average minimum 4 degrees lower than the long-time averages. The wind velocity was 1.6 m. p. h. lower than the long-time average.

The moisture is fine for the wheat, but there are still some sorghums that have not been threshed as yet, because of the damp conditions.

Maximum temperature, 62°; minimum, 12°; precipitation, 0.69 inch.

TUCUMCARI:

February was unusually warm, calm, and dry. The month was very open, with only two light snow flurries, and no temperature reading below 21° was recorded. To date the present winter has had no reading lower than 6° which was recorded in November. Wind velocity was high on only two days, with very severe soil blowing on only one day.

Livestock are wintering well, more because of the pleasant, temperate weather than because of an abundance of feed.

Wheat farmers report pale western cut-worms are beginning their attack, although we have not learned how widespread this damage is. Early wheat is in fair to good condition, but many late fields have been seriously injured by high wind movement on two days of the past month. A number of soil moisture tests made on wheat fields show a considerable amount of free moisture in the first three feet, little or none below this depth.

Station work has included grape pruning, some tree pruning, furrowing of fields to prevent soil movement, and the usual winter clean-up.

Maximum temperature, 73°; minimum, 21°; average wind velocity, 4.9 m.p.h.; precipitation, 0.39 inch.

DALHART:

The month was characterized by mild, open winter weather with the temperatures ranging near or slightly above the average. The two preceding months could be similarly described. On the 12th occurred the only severe soil movement for the month. The wind velocity averaged 42 m.p.h. at the 18-foot elevation during the peak of this blow period. Winter wheat on farms in the surrounding area is reported to be severely punished and killed by this storm. One reason that the reported damage was so high is attributed to the small size of the plants. Late rains in the fall permitted only a small amount of fall growth, and the plants were very susceptible to wind injury. One other climatic factor was a decided change from the usual: On 8 consecutive days, from the 18th to 25th, inclusive, a misting rain (usually just a heavy mist) was received as more or less continuous to intermittent mist for the period.

There remains sufficient small rye plants on the rotations to make a fair stand if wind damage is not too severe in the immediate future. Winter wheat on the rotations now appears to be thinned to the extent that one would be justified in recording a failure now. Oats and sweetclover plots were seeded today, March 1.

There is still moisture in the surface soil of sufficient amounts for recovery of wheat that is not too severely eroded and also to permit tillage to control erosion.

Mean maximum temperature for the month was 51°; mean minimum, 25°; mean, 38°. Maximum temperature, 66°; minimum, 15°; precipitation, 0.36 inch.

BIG SPRING:

Minimum temperatures during the month were considerably above normal; 28° was the low point recorded, and freezing was reached only on a few occasions. Damp, cloudy, misty weather prevailed from February 20 to 27. Precipitation was recorded on six days during this period, but it was in such small amounts that the total for the month was only 1.02 inches. This was somewhat above average for February, however. This moisture put the land in good condition for listing and will materially help wheat over the county. The Station wheat plots are making a rapid growth and are looking exceptionally well, but this surface moisture will not last long with this rapid growth.

Station work has consisted of threshing sorghum seed, pruning shrubs, trees, and grapes, and repairing and oiling harness.

Maximum temperature, 78°; minimum, 28°; precipitation, 1.02 inches.

LAWTON:

Although the mean temperature for February was slightly below normal, fall-seeded oats and barley made considerable growth, and both crops are going into early spring growth with an abundant supply of moisture. Wheat remained more or less dormant and but little growth ensued except during the last week in the month, when renewed growth was quite evident.

Some spring growth of alfalfa and sweetclover was also observed toward the end of the month.

Spring-seeded variety tests of oats and barley were made on the 14th. Rotation plots of oats and barley were also seeded about that time. Subsequent precipitation of 1.77 inches caused the surface soil to run together and form a hard crust. Emergence of the young seedlings is assisted by harrowing. The first date seeding, made January 25, finally emerged to fairly good stands.

Oats seeding on surrounding farms will be later than usual on account of the wet weather in February.

Entomologists forecast a heavy infestation of cut worms, and the first early instar larvae are now present.

The monthly rainfall of 2.35 inches was well distributed throughout the month and but little field work was possible.

Visibility was reduced to less than ½ mile in the afternoon of the 12th by dust coming in from the southwest.

A heavy, wet snow of about 2 inches, the only snow of the season to date, fell on the 23rd.

WOODWARD:

Precipitation in February amounted to 2.00 inches, somewhat above the monthly average of 0.74 inch. Snowfall totalled 6.5 inches, most of which occurred on the 23rd. The mean temperature of 36° was 2.7° below normal with no important extremes. The average wind velocity of 6.5 miles per hour was relatively low for this time of the year, however, a gale of several hours duration on the 12th caused a thick dust overcast, injury to wheat resulting from soil blowing in some parts of the Panhandle and adjoining areas.

Wheat in the D.L.A. project and in the terraced increase field made slight growth during February, appearing to be in good condition at the close of the month. No appreciable damage to small grain from soil blowing was observed at the station, however, several uncropped sorghum stubble plots and certain roadways were cultivated to prevent drifting. Routine dates of planting wheat, oats, barley, and rye were made on the 1st and 15th. Oats, barley, and flax nurseries planted on the 11th have germinated.

Campus and arboretum transplanting continued during favorable weather. Shipments of nursery stock including a number of balled and burlapped evergreens were distributed in connection with farm cooperative experimental work. Replacements from cuttings and new plantings were completed in the grape vineyards. Tomato crossing work in the greenhouse has been terminated for this season, and material for early spring planting started in flats. The dry land vegetable garden area has been plowed.

Pasture division fencing operations at the Range Unit continued, setting of posts nearing completion. Final plans for corral systems were also drawn up and some preliminary work started in that connection. Plowing 225 acres of land for the revegetation phase of the project was finished under very favorable soil moisture conditions.

Other station activities included cleaning and treating seed, repairing machinery, and building cattle guards. On February 23, a small flow of water from Spring Creek began running into the main reservoir for the first time since last spring. On March 1, the water had just reached the level of the outlet pipe or what might be termed the 0.0 stage. Some water was pumped late in the summer of 1940 from a deeper part of the old stream channel by an extension pipe supported by barrel pontoons.

Maximum temperature, 67°; minimum, 17°; precipitation, 2.00 inches; snowfall, 6.5 inches.

HAVRE:

The average temperature was 21.3°, being 4.0° above normal. Readings of zero or lower were recorded on only 6 days. Snowfall was 3.6 inches below the U. S. Weather Bureau normal, and measured precipitation was 0.24 inch below the station average.

The repairing of plot and farm machinery is pretty well completed. Summarizing data was the major activity in the Agronomy Department, although certain minor changes were made in the seed-house to facilitate work.

Our W.P.A. project was reopened on February 11. A new pipe-line was laid to one of the dwellings, a distance of about 380 feet. Renovation of the old office was begun. An N.Y.A. project was also opened on the 10th. This group furnish only three boys at a time, who have been occupied with miscellaneous shop work, building and painting shelving in the shop stockroom, and making various types of stakes for the experimental field. Hand picking foundation seed was also begun.

The third 28-day feeding period was completed, and weights were taken on the 27th. These are the heifers that are on record of performance tests. The feeds used for the calves was fine quality alfalfa hay. The average daily consumption was 10.5 pounds, and the average daily gain was 1.1 pounds. The highest gain was 1.9 pounds per day on a daily feed of 11.14 pounds of hay. The yearling heifers were fed rather poor quality chopped alfalfa hay and made an average daily gain of 0.9 pound on 15.60 pounds of chopped alfalfa hay. The highest average daily gain made by a yearling heifer was 1.6 pounds on a daily feed of 16.60 pounds of rather coarse chopped alfalfa hay.

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